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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,341	06/21/2001	Chen-Tsai Lee	P-3641.148	4452

7590 02/27/2004

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EXAMINER

BRITT, CYNTHIA H

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 02/27/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/886,341

Applicant(s)

LEE, CHEN-TSAI

Examiner

Cynthia Britt

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings filed June 21, 2001 are acceptable.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 7-9, these claims are dependent on claim 1, which recites "transferring data to data input/output pins of a memory seamlessly". However, each of these claims contains an element that contradicts, "transferring data to data input/output pins of a memory seamlessly". It is unclear to the examiner how these claims can support claim 1.

Claim 7 recites, "the data are partly masked to purposely achieve a non seamless status"

Claim 8 recites, "the control commands are partly delayed"

Claim 9 recites, " the control commands are partly interrupted"

Claims 10-15 inherit the 35 U.S.C. 112, second paragraph issues of the claims 7-9 on which they depend.

Claims 7-15 will not be further considered on the merits.

The examiner suggests that these claims would be better understood if a separate independent claim were created to support claims 7-15 using the subject matter from page 7 lines 14-17 of the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogholtz et al. U.S. Patent No. 5195097 in view of Jung et al. U.S. Patent No. 6,067,255.

As per claim 1, Bogholtz et al. substantially teach the claimed method using a high speed tester that stores the data corresponding to the first and last addresses of each test loop in a high speed cache. In the majority of test addresses, data is transferred from a memory into at least two shift registers and the cache is not accessed. The output of the shift registers are interleaved in a multiplexer to provide two bits of test data for each tester clock cycle. Control circuitry decodes bits associated with each data address and controls presenting data to the shift registers from the memory and the cache. Use of the cache allows a continuous output of test data from the multiplexer during repetitions of a loop and when new test loop are introduced, with no intervals in the data, regardless of whether the data terminates on an address boundary (abstract). Although Bogholtz et al. discloses using a controller and control signals, not explicitly disclosed is the use of control pins.

However, in an analogous art, Jung et al. teach using input/control pins on a logic block supplying interleaved input data for each of the memory blocks via the input/output unit and the memory block supplies interleaved output data for each of the memory banks to the logic block via the input/output unit. (Column 2 lines 51-67 Fig 3 p1-p13) Therefore, it would have been obvious to a person having ordinary skill in the art at the time this invention was made to have used the control pins taught by Jung et al. with the memory testing method taught by Bogholtz et al. This would have been obvious as taught by Bogholtz et al. in order to efficiently transfer data or instruction to a device under test (column 1 lines 19-39, column 4 lines 51-55)

As per claims 2-4, Bogholtz et al. teach "seamless data" continuous output of test data from the multiplexer during repetitions of a loop and when new test loop are introduced, with no intervals in the data, regardless of whether the data terminates on an address boundary to the input and outputs (abstract column 6 lines 34-62) and Jung et al teach that The logic block supplies input data to the memory block via the input/output unit and the memory block supplies output data to the logic block via the input/output unit. The input data and the output data are supplied on separate data paths between the logic block and the input/output unit. Preferably, the logic block supplies interleaved input data for each of the memory blocks via the input/output unit and the memory block supplies interleaved output data for each of the memory banks to the logic block via the input/output unit. (Column 2 lines 51-67)

As per claim 5, Jung et al. teach a plurality of memory banks, which are independently controlled (abstract) (Bogholtz et al. see claim 13).

As per claims 6, Jung et al. disclose SDRAM applications of this type of memory testing (figures 1 and 2)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Britt whose telephone number is 703-308-2391. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CB

Cynthia Britt
Examiner
Art Unit 2133

Eugene J. Lamare
for

Albert DeCady
Primary Examiner